IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): ~~An information processing~~ A data transmitting apparatus ~~characterized by~~ comprising:

~~a~~ a command transmission ~~means for transmitting~~ unit configured to transmit a response request command ~~for requesting for a response~~ to a data receiving apparatus ~~after~~;

a control unit configure to receive a response message to the response request command from the data receiving apparatus, the response message including authentication data ~~is generated in accordance with~~ based on shared data shared with said data receiving apparatus;

an expected value generation unit configured to generate an expected authentication value based on the shared data;

an authentication ~~means for authenticating~~ unit configured to produce an authentication result for said data receiving apparatus ~~in accordance with an~~ based on the expected value ~~generated based on said shared data~~ and said authentication data ~~generated at said receiving apparatus~~;

~~a~~ a measurement ~~means for measuring~~ unit configured to measure a response time ~~taken by said receiving apparatus to respond to said command~~ between transmitting the response request command and receiving the response message; and

~~a~~ a judgment ~~means for judging whether~~ unit configured to judge if a subsequent data transmission to said data receiving apparatus is granted ~~or not, in accordance with an~~ based on the authentication result ~~by said authentication means~~ and the response time ~~measured by said measurement means~~.

Claim 2 (Currently Amended): The ~~information processing~~ data transmitting apparatus recited in claim 1, wherein:

said command transmission ~~means transmits~~ unit is further configured to transmit said response request command a maximum of N times ~~to judge whether the data transmission is granted or not~~;

said control unit is further configured to receive the response messages from the data receiving apparatus for each of the N transmitted response request commands; and

said authentication ~~means authenticates said receiving apparatus in accordance with~~ unit is further configured to produce authentication results based on said authentication data ~~corresponding to a transmission sequence of said command and a corresponding one of said expected value~~ in each received response message.

Claim 3 (Currently Amended): ~~An information processing~~ A data transmission method ~~characterized by~~ comprising:

~~a command transmission step of~~ transmitting a response request command ~~for requesting for a response~~ to a data receiving apparatus ~~after~~;

receiving a response message to the response request command from the data receiving apparatus, the response message including authentication data ~~is generated in accordance with~~ based on shared data shared with said data receiving apparatus;

generating an expected authentication value based on the shared data;

~~an authentication step of authenticating~~ producing an authentication result for said data receiving apparatus ~~in accordance with an~~ based on the expected authentication value ~~generated based on said shared data~~ and said authentication data ~~generated at said receiving apparatus~~;

~~a measurement step of~~ measuring a response time ~~taken by said receiving apparatus to respond to said command~~ between transmitting the response request command and receiving the response message; and

~~a judgment step of~~ judging ~~whether~~ if a subsequent data transmission to said data receiving apparatus is granted ~~or not, in accordance with an~~ based on the authentication result ~~by said authentication step~~ and the response time ~~measured at said measurement step~~.

Claim 4 (Currently Amended): A ~~recording medium recording a~~ computer program product having computer program ~~readable~~ instructions which when executed by a computer~~,~~ ~~the program characterized by comprising~~ cause the computer to perform the following steps:

~~a command transmission control step of~~ controlling transmission of a command ~~for requesting for a response~~ to a data receiving apparatus ~~after~~:

controlling reception of a response message to the response request command from the data receiving apparatus, the response message including authentication data ~~is generated in accordance with~~ based on shared data shared with said data receiving apparatus;

controlling generation of an expected authentication value based on the shared data;

~~an authentication control step of~~ controlling production of an authentication ~~of~~ result for said data receiving apparatus ~~in accordance with an~~ based on the expected authentication value ~~generated based on said shared data~~ and said authentication data ~~generated at said receiving apparatus~~;

~~a measurement control step of~~ controlling measurement of a response time ~~taken by said receiving apparatus to respond to said command~~ between transmitting the response request command and receiving the response message; and

~~a judgment control step of controlling judgment whether~~ judging if a subsequent data transmission to said data receiving apparatus is granted ~~or not, in accordance with an~~ based

on the authentication result ~~by said authentication control step~~ and the response time

~~measured at said measurement control step~~.

Claim 5 (Canceled).

Claim 6 (Currently Amended): ~~An information processing~~ A data receiving apparatus

~~capable of communicating with~~ configured to receive data from a data transmitting apparatus

which judges whether data transmission is granted ~~or not, in accordance with an~~

~~authentication result~~ based on authentication data ~~generated from shared data shared with said~~

~~transmitting apparatus~~ and a response time ~~to a predetermined command from said~~

~~transmitting apparatus~~ between sending a response request command and receiving a

response message, the ~~information processing~~ data receiving apparatus ~~characterized by~~

comprising:

a command receiving unit configured to receive the response request command from

the data transmitting apparatus;

an authentication data generation ~~means for generating~~ unit configured to generate

said authentication data based on shared data shared with the data transmitting apparatus by

subjecting said shared data to a predetermined process[[,]] before said response request

command is ~~transmitted~~ received from said data transmitting apparatus;

a response message generation ~~means for generating a~~ unit configured to generate the

response message to said response request command before said response request command

is ~~transmitted~~ received from said data transmitting apparatus, said response message

including said authentication data ~~generated by said authentication data generation means~~;

and

a transmission ~~means for transmitting~~ <u>unit configured to transmit</u> said response message to said <u>data</u> transmitting apparatus when said <u>response request</u> command ~~transmitted~~ <u>is received</u> from said <u>data</u> transmitting apparatus ~~is received~~.

Claim 7 (Currently Amended): The ~~information processing~~ <u>data receiving</u> apparatus recited in claim 6, ~~characterized in that~~ <u>wherein</u>:

said shared data is a quasi random number~~; said quasi random number is~~ transmitted from said <u>data</u> transmitting apparatus before said <u>response request</u> command is transmitted; and

said authentication data generation ~~means subjects~~ <u>unit is further configured to subject</u> said quasi random number to a Keyed-Hash process ~~and a resultant~~ <u>to produce a</u> Hash value <u>that</u> is used as said authentication data.

Claim 8 (Currently Amended): The ~~information processing~~ <u>data receiving</u> apparatus recited in claim [[7]]<u>6</u>, ~~characterized in that~~ <u>wherein</u>:

said authentication data generation ~~means executes~~ <u>unit is further configured to execute</u> a Keyed-Hash process relative to said quasi random number and information specific to the information processing apparatus ~~and uses a resultant~~ <u>to produce a</u> Hash value <u>that is used</u> as said authentication data.

Claim 9 (Currently Amended): The ~~information processing~~ <u>data receiving</u> apparatus recited in claim 6, ~~characterized in that~~ <u>wherein</u>:

[[if]] said <u>command receiving unit is further configured to receive said response</u> request command ~~is transmitted~~ from said <u>data</u> transmitting apparatus a maximum of N times ~~to judge whether data transmission is granted or not~~;

said authentication data generation ~~means executes~~ unit is further configured to

execute said predetermined process relative to said shared data before a first one of said

response request ~~command~~ commands is ~~transmitted~~ received from said data transmitting

apparatus and ~~generates~~ further configured to generate N sets of said authentication data

corresponding to said N ~~sets of said command to be transmitted~~ received response request

commands; and

said transmission ~~means transmits~~ unit is further configured to transmit said response

message generated by said response message generation ~~means~~ unit to said data transmitting

apparatus, said response message including the ~~in such a manner that~~ N sets of said

authentication data ~~are supplied to said transmitting apparatus~~ in a sequence agreed

beforehand with said data transmitting apparatus.

Claim 10 (Currently Amended): The ~~information processing~~ data receiving apparatus

recited in claim 9, ~~characterized in that~~ wherein:

said authentication data generation ~~means divides~~ unit is further configured to divide

the data obtained by subjecting said shared data to said process into a plurality of data pieces

and ~~generates~~ further configured to generate the N sets of said authentication data from the

divided data.

Claim 11 (Currently Amended): The ~~information processing~~ data receiving apparatus

recited in claim 9, ~~characterized in that~~ wherein:

said authentication data generation ~~means generates~~ unit is further configured to

generate the N sets of said authentication data ~~from~~ based on data obtained at each process of

repetitively executing said predetermined process relative to said shared data.

Claim 12 (Currently Amended): The ~~information processing~~ data receiving apparatus recited in claim 6, ~~characterized in that~~ wherein:

~~when said command from said transmitting apparatus is received,~~ said transmission ~~means transmits a~~ unit is further configured to transmit the response message to said transmitting apparatus when said response request command is received from the data transmitting apparatus, said response message containing new authentication data generated from said authentication data and information contained in said response request command.

Claim 13 (Currently Amended): ~~An information processing~~ A data reception method for ~~an information processing~~ data receiving apparatus ~~capable of communicating with~~ configured to receive data from a data transmitting apparatus which judges whether data transmission is granted~~, in accordance with an authentication result~~ based on authentication data ~~generated from shared data shared with said transmitting apparatus~~ and a response time ~~to a predetermined command from said transmitting apparatus~~ between sending a response request command and receiving a response message, the ~~information processing~~ data reception method ~~characterized by~~ comprising:

receiving the response request command from the data transmitting apparatus;

~~an authentication data generation step of~~ generating said authentication data based on shared data shared with the data transmitting apparatus by subjecting said shared data to a predetermined process[[,]] before said response request command is ~~transmitted~~ received from said data transmitting apparatus;

~~a response message generation step of~~ generating ~~a~~ the response message to said response request command before said response request command is ~~transmitted~~ received from said data transmitting apparatus, said response message including said authentication data ~~generated by a process at said authentication data generation step~~; and

a transmission step of transmitting said response message to said data transmitting

apparatus when said response request command transmitted is received from said data

transmitting apparatus is received.

Claim 14 (Currently Amended): A recording medium recording a computer program

product having computer program readable instructions which, when executed by a computer

for communicating with configured to receive data from a data transmitting apparatus which

judges whether data transmission is granted, in accordance with an authentication result

based on authentication data generated from shared data shared with said transmitting

apparatus and a response time to a predetermined command from said transmitting apparatus

between sending a response request command and receiving a response message, causes the

program characterized by comprising computer to perform the following steps:

controlling the reception of the response request command from the data transmitting

apparatus;

an authentication data generation control step of controlling generation of said

authentication data based on shared data shared with the data transmitting apparatus by

subjecting said shared data to a predetermined process[[,]] before said response request

command is transmitted received from said data transmitting apparatus;

a response message generation control step of controlling generation of a the response

message to said response request command before said response request command is

transmitted received from said data transmitting apparatus, said response message including

said authentication data generated by a process at said authentication data generation step;

and

~~a transmission control step of~~ controlling transmission of said response message to

said ~~data~~ transmitting apparatus when said response request command ~~transmitted~~ is received

from said ~~data~~ transmitting apparatus ~~is received~~.

Claim 15 (Canceled).

Claim 16 (Currently Amended): An information ~~processing~~ transmitting apparatus

~~characterized by~~ comprising:

an authentication data generation ~~means for generating~~ unit configured to generate

command authentication data and response expected value data from shared data shared with

a ~~data~~ receiving apparatus;

a command transmission ~~means for transmitting~~ unit configured to transmit a

response request command ~~for requesting for a response~~ to said ~~data~~ receiving apparatus, said

response request command containing said command authentication data;

a response reception ~~means for receiving~~ unit configured to receive a response

message to said response request command from said ~~data~~ receiving apparatus;

an authentication ~~means for authenticating~~ unit configured to produce an

authentication result for said information receiving apparatus ~~in accordance with~~ based on

said response expected value data and ~~said~~ response authentication data ~~contained~~ in said

response message received from said ~~data~~ receiving apparatus;

a measurement ~~means for measuring~~ unit configured to measure a response time ~~taken~~

~~by said receiving apparatus to respond to said command~~ between transmitting the response

request command and receiving the response message; and

a judgment ~~means for judging whether~~ unit configured to judge if a subsequent data

transmission to said ~~data~~ receiving apparatus is granted ~~or not, in accordance with an~~ based

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on the authentication result ~~by said authentication means~~ and the response time ~~measured by~~ ~~said measurement means~~.

Claim 17 (Currently Amended): The ~~information processing~~ data transmitting apparatus recited in claim 16, ~~characterized in that~~ wherein:

said command transmission ~~means transmits~~ unit is further configured to transmit said response request command a maximum of k times ~~to judge whether data transmission is~~ ~~granted~~;

said control unit is further configured to receive the response messages from the data receiving apparatus for each of the N transmitted response request commands; and

said authentication ~~means authenticates said receiving apparatus in accordance with~~ unit is further configured to produce authentication results based on said authentication data ~~corresponding to a transmission sequence of said command and a corresponding one of said~~ ~~expected value~~ in each received response message.

Claim 18 (Currently Amended): ~~An information processing~~ A data transmission method ~~characterized by~~ comprising:

~~an authentication data generation step of~~ generating command authentication data and response expected value data from shared data shared with a data receiving apparatus;

~~a command transmission step of~~ transmitting a response request command ~~for~~ ~~requesting for a response~~ to said data receiving apparatus, said response request command containing said command authentication data;

~~a response reception step of~~ receiving a response message to said response request command from said data receiving apparatus;

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producing an authentication ~~step of authenticating~~ result for said receiving apparatus ~~in accordance with~~ based on said response expected value data and ~~said~~ response authentication data ~~contained~~ in said response message received from the data receiving apparatus;

a ~~measurement step of~~ measuring a response time ~~taken by said receiving apparatus to respond to said command~~ between transmitting the response request command and receiving the response message; and

a ~~judgment step of~~ judging ~~whether~~ if a subsequent data transmission to said data receiving apparatus is granted ~~or not, in accordance with an~~ based on the authentication result ~~by said authentication step~~ and said response time ~~measured by said measurement step~~.

Claim 19 (Currently Amended): A ~~recording medium recording a~~ computer program product having computer program ~~readable~~ instructions which when executed by a computer~~,~~ ~~the program characterized by comprising~~ cause the computer to perform the following steps:

an ~~authentication data generation step of~~ generating command authentication data and response expected value data from shared data shared with a data receiving apparatus;

a ~~command transmission step of~~ transmitting a response request command ~~for requesting for a response~~ to said data receiving apparatus, said response request command containing said command authentication data;

a ~~response reception step of~~ receiving a response message to said response request command from said data receiving apparatus;

producing an authentication ~~step of authenticating~~ result for said receiving apparatus ~~in accordance with~~ based on said response expected value data and ~~said~~ response authentication data ~~contained~~ in said response message received from the data receiving apparatus;

a measurement step of measuring a response time ~~taken by said receiving apparatus to respond to said command~~ between transmitting the response request command and receiving the response message; and

a judgment step of judging ~~whether~~ if a subsequent data transmission to said data receiving apparatus is granted ~~or not, in accordance with an~~ based on the authentication result ~~by said authentication step~~ and said response time ~~measured by said measurement step~~.

Claim 20 (Canceled).

Claim 21 (Currently Amended): ~~An information processing~~ A data receiving apparatus ~~capable of communicating with~~ configured to receive data from a data transmitting apparatus which judges whether data transmission ~~of transmission data~~ is granted ~~or not, in accordance with~~ based on a response time ~~to a predetermined command~~ between sending a response request command and receiving a response message, the ~~information processing~~ data receiving apparatus ~~characterized by~~ comprising:

~~generation means for~~ a generating [[,]]unit configured to generate command expected value data and response authentication data from shared data shared with said data transmitting apparatus, each of said command expected value data and said response authentication data ~~respectively~~ corresponding to authentication data ~~of~~ in said response request command generated at said data transmitting apparatus from said shared data;

~~authentication means for~~ an authenticating unit configured to produce an authentication result for said data transmitting apparatus ~~in accordance with~~ based on the authentication data ~~of said command contained~~ in said response request command and said command expected value data ~~generated by said generation means,~~ when said response

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request command ~~transmitted~~ is received from said data transmitting apparatus ~~is received~~; and

     a transmission ~~means for transmitting~~ unit configured to transmit a subsequent response message containing said response authentication data to said data transmitting apparatus~~, in accordance with an~~ based on the authentication result by said ~~authentication means~~ authenticating unit.

     Claim 22 (Currently Amended): ~~An information processing~~ A data reception method for ~~an information processing~~ a data receiving apparatus ~~capable of communicating with~~ configured to receive data from a data transmitting apparatus which judges whether data transmission ~~of transmission data~~ is granted ~~or not, in accordance with~~ based on a response time ~~to a predetermined command~~ between sending a response request command and receiving a response message, the ~~information processing~~ method ~~characterized by~~ comprising:

     ~~a generation step of~~ generating[[,]] command expected value data and response authentication data from shared data shared with said data transmitting apparatus, each of said command expected value data and said response authentication data ~~respectively~~ corresponding to authentication data ~~of~~ in said response request command generated at said data transmitting apparatus from said shared data;

     ~~an authentication step of authenticating~~ producing an authentication result for said data transmitting apparatus ~~in accordance with~~ based on the authentication data ~~of said command contained~~ in said response request command and said command expected value data ~~generated by a process of said generation step,~~ when said response request command ~~transmitted~~ is received from said data transmitting apparatus ~~is received~~; and

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a transmission step of transmitting a subsequent response message containing said

response authentication data to said data transmitting apparatus, in accordance with an based

on the authentication result by a process of said authentication step.

Claim 23 (Currently Amended): A recording medium recording a computer program

product having computer program readable instructions which, when executed by a

computer, the program for information processing of an information processing apparatus

capable of communicating with configured to receive data from a data transmitting apparatus

which judges whether data transmission of transmission data is granted, in accordance with

based on a response time to a predetermined command between sending a response request

command and receiving a response message, causes the program characterized by comprising

computer to perform the following steps:

a generation step of generating[[,]] command expected value data and response

authentication data from shared data shared with said data transmitting apparatus, each of

said command expected value data and said response authentication data respectively

corresponding to authentication data of in said response request command generated at said

data transmitting apparatus from said shared data;

an authentication step of authenticating producing an authentication result for said

data transmitting apparatus in accordance with based on the authentication data of said

command contained in said response request command and said command expected value

data generated by a process of said generation step, when said response request command

transmitted is received from said data transmitting apparatus is received; and

a transmission step of transmitting a subsequent response message containing said

response authentication data to said data transmitting apparatus, in accordance with an based

on the authentication result by a process of said authentication step.

Claim 24 (Canceled).

Claim 25 (New): A communication system comprising:

a data transmitting apparatus including

a command transmission unit configured to transmit a response request command to a data receiving apparatus,

a control unit configure to receive a response message to the response request command from the data receiving apparatus, the response message including authentication data based on shared data shared with said data receiving apparatus,

an expected value generation unit configured to generate an expected authentication value based on the shared data,

an authentication unit configured to produce an authentication result for said data receiving apparatus based on the expected value and said authentication data,

a measurement unit configured to measure a response time between transmitting the response request command and receiving the response message, and

a judgment unit configured to judge if a subsequent data transmission to said data receiving apparatus is granted based on the authentication result and the response time; and

the data receiving apparatus configured to receive data from the data transmitting apparatus, the data receiving apparatus including

a command receiving unit configured to receive the response request command from the data transmitting apparatus,

an authentication data generation unit configured to generate said authentication data based on the shared data by subjecting said shared data to a

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predetermined process before said response request command is received from said

data transmitting apparatus,

a response message generation unit configured to generate the response

message to said response request command before said response request command is

received from said data transmitting apparatus, said response message including said

authentication data, and

a transmission unit configured to transmit said response message to said data

transmitting apparatus when said response request command is received from said

data transmitting apparatus.

Claim 26 (New): A communication system comprising:

an information transmitting apparatus including

an authentication data generation unit configured to generate command

authentication data and response expected value data from shared data shared with a

data receiving apparatus,

a command transmission unit configured to transmit a response request

command to said data receiving apparatus, said response request command containing

said command authentication data,

a response reception unit configured to receive a response message to said

response request command from said data receiving apparatus,

an authentication unit configured to produce an authentication result for said

information receiving apparatus based on said response expected value data and

response authentication data in said response message received from said data

receiving apparatus,

a measurement unit configured to measure a response time between transmitting the response request command and receiving the response message, and

a judgment unit configured to judge if a subsequent data transmission to said data receiving apparatus is granted based on the authentication result and the response time; and

the data receiving apparatus configured to receive data from the data transmitting apparatus, the data receiving apparatus including

a generating unit configured to generate command expected value data and the response authentication data from the shared data, each of said command expected value data and said response authentication data corresponding to the command authentication data in said response request command generated at said data transmitting apparatus from said shared data;

an authenticating unit configured to produce an authentication result for said data transmitting apparatus based on the command authentication data in said response request command and said command expected value data when said response request command is received from said data transmitting apparatus; and

a transmission unit configured to transmit a subsequent response message containing said response authentication data to said data transmitting apparatus based on the authentication result by said authenticating unit.